

REMARKS

The Examiner is thanked for the due consideration of the application. This Amendment is being filed concurrent with a Request for Continued Examination because it raises new issues requiring further consideration and/or search.

Claims 1-3, 5-11 and 13 are pending in the application. Claims 1 and 13 have been amended to clarify that there is a single measurement probe and that the sampling device is driven directly into the pile of waste of compost. The "single" limitation finds support in paragraph [0026 of the description. The "directly" limitation is supported by the description and drawings. Claim 13 has been withdrawn from consideration.

No new matter is believed to be added to the application by this amendment.

Rejection Under 35 USC §112, Second Paragraph

Claim 1 has been rejected under 35 USC §112, second paragraph as being indefinite. This rejection is respectfully traversed.

The Office Action asserts that the "single gas measurement probe" in claim 1 lacks antecedent basis. Claim 1 has been amended to address this issue.

The claims are thus clear, definite and have full antecedent basis.

This rejection is believed to be overcome, and withdrawal thereof is respectfully requested.

Rejections Based on SCHNEIDER

Claims 1 and 2 have been rejected under 35 USC §103(a) as being unpatentable over SCHNEIDER (U.S. Patent 4,670,148) in view of KATZ (U.S. Patent 4,838,733), YAO (U.S. Patent 6,541,073) and BILLINGS (U.S. Patent 5,653,288).

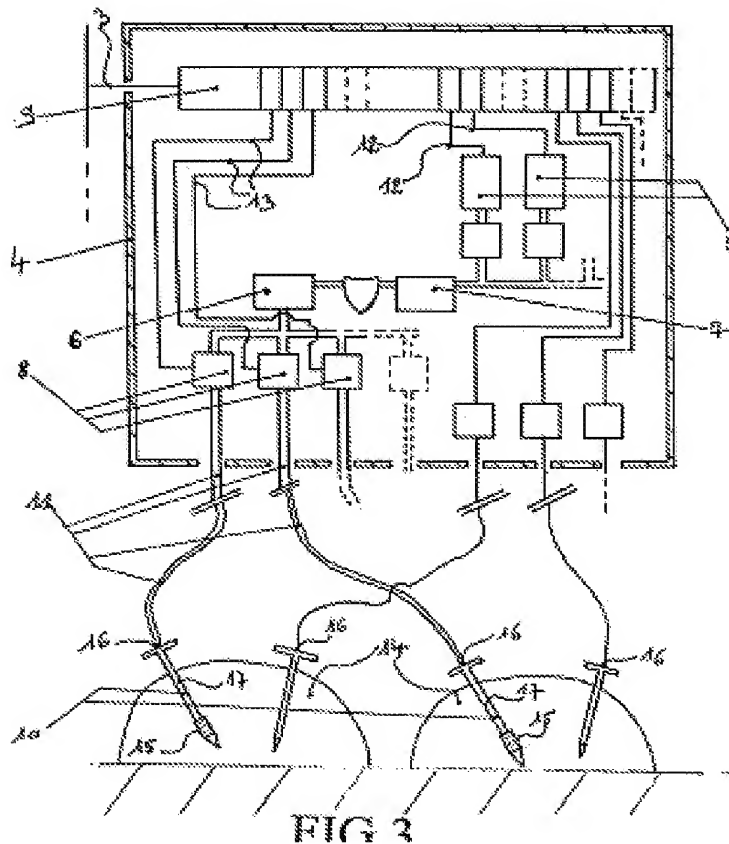
Claims 3 and 8 have been rejected under 35 USC §103(a) as being unpatentable over SCHNEIDER in view of KATZ, BILLINGS and YAO, and further in view of NOBLE (U.S. Patent 4,442,974).

Claims 5, 6, 9 and 10 have been rejected under 35 USC §103(a) as being unpatentable over SCHNEIDER in view of KATZ, BILLINGS, YAO, and NOBLE, and further in view of JOHNSON (U.S. Patent 4,026,355).

Claims 7 and 11 have been rejected under 35 USC §103(a) as being unpatentable over SCHNEIDER in view of KATZ, BILLINGS, YAO, NOBLE, and JOHNSON, and further in view of JACKSON (U.S. Publication 2002/0023505).

These rejections are respectfully traversed.

The present invention pertains to a system for regulation and discontinuous measurement of an oxygen content or a content of any other gas in platforms for composting or processing waste, in the form of swaths. The present invention is illustrated, by way of example, in Figure 3 of the application, which is reproduced below.



As is shown in the figure above, at least one remote bay has a **single** gas measurement probe for measuring a concentration of a given gas, the measurement probe being at least an oxygen or CO₂ measurement probe. A gas intake pump and electric valves are operated by a program controller, and a pipe connects each of the electric valves to a gas sampling device, the electric valves being coupled to the pump allowing the air and the gases contained in this air at each sampling device to be drawn in successively and sent to the measurement probe.

The sampling device is a hollow sampling rod with two opposite ends able to be driven **directly** into the pile(s) of waste or compost (see Figure 4, reproduced below). Each one of

the hollow sampling rods corresponds to one single pipe and being fitted with a tapered air intake strainer at one end, the pipe being connected at the other end of the rod, and the oxygen measurement probe is able to supply within a very short response time the measurement of the oxygen content of several swaths. Consequently, this probe is a heated zirconium oxide sensor with a response time of less than ten seconds.

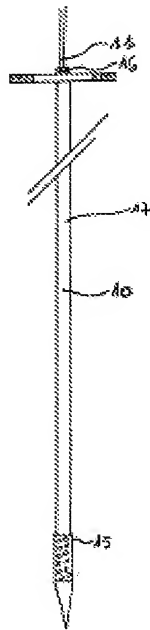


FIG 4

As is set forth in instant claim 1, in the **single** gas measurement probe, in particular for measuring oxygen or CO₂, respectively, the oxygen or CO₂ content of several swaths is determined by means of samples obtained from the various gas sampling rods.

Moreover, the word "directly" has been added to the claims to emphasize that the rods are directly driven into the waste and not into a pit or otherwise into some type of outer

protection. This is clear from the tapered configuration of sampling the rod.

In comparison, SCHNEIDER utilizes one sensor for each withdrawal line and thus has as many sensors as withdrawal lines. In addition, the strainer at the end of the rod of the present invention is not found in SCHNEIDER. On the contrary this reference uses apertures at a distance from the end of the pipe. This is also the case for the plastic pipe in the rod of BILLINGS.

Figures 1 and 2 of SCHNEIDER are reproduced below.

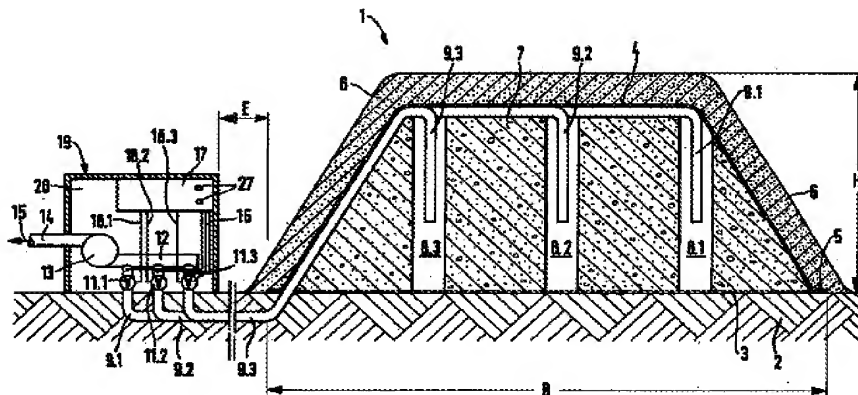


FIG.1

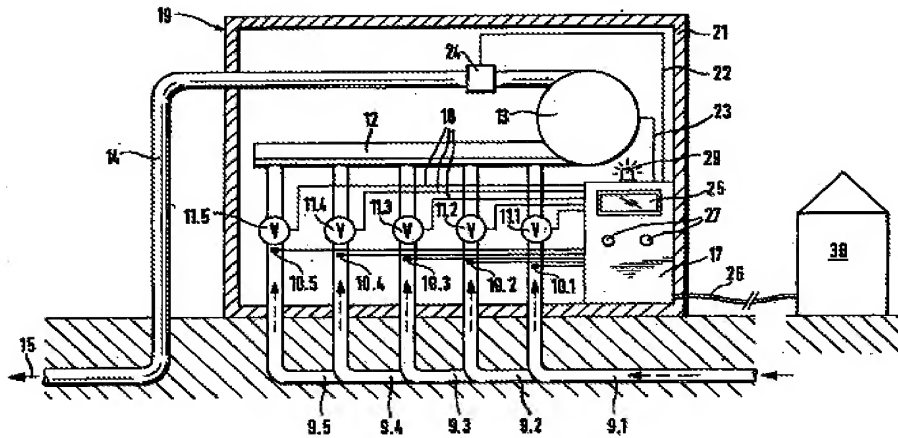


FIG. 2

In SCHNEIDER it is clearly taught that "at least one sensor associated with each of the gas withdrawal lines" is used (Column 2, lines 51-52). Moreover, in each exemplified embodiment in relation to the drawing figures there is one sensor for each withdrawal line, which sensor can be in the dump, upstream or downstream of shutoff devices.

Such a teaching does not give incentive to the use of a **single** sensor (measurement probe) for all the withdrawal lines as claimed in independent claim 1.

The sensor is a high cost device and calibration is required from time to time. Multiplying the sensors means higher costs and more complexity for calibration and maintenance. Electric valves are used to switch sequentially to the sensor one of the plastic pipe of the set of plastic pipes in the current invention.

In the present invention, it is clear at least from the drawing figures that the sampling device is formed from a rod able to be driven **directly** into a pile of compost. The rods are **directly** driven into the waste. This explains why air intake strainers are used at the end of the rod to avoid any clogging during aspiration of the gas.

In the present invention there is no pit or outer protection to separate the rod from the waste as in the case in SCHNEIDER, where pits are made into which withdrawal lines are inserted.

There is not incentive to use a tapered end on a rod that is inserted into a pit. In BILLINGS the use of a pit is even more important because a pipe 130 is running along the outside of the tube 148 and it must be protected in a pit. (See Figure 12, reproduced below).

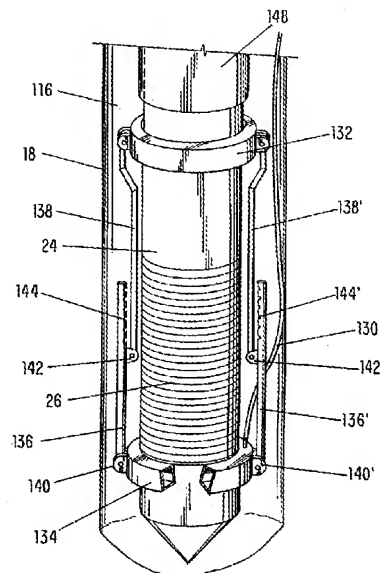


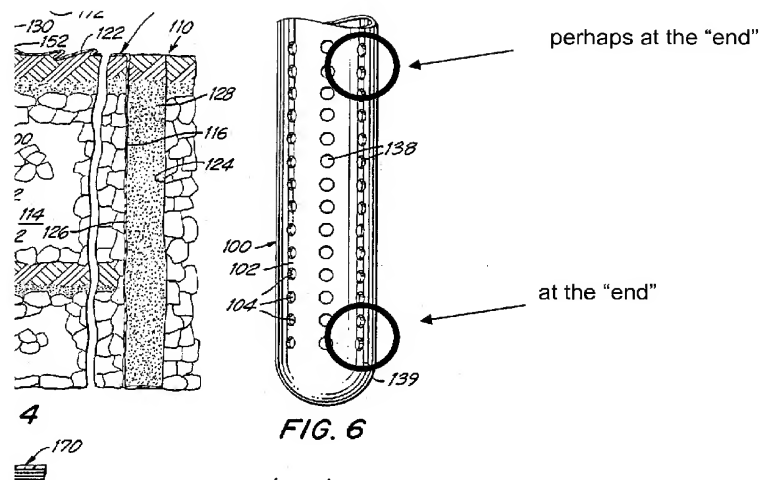
FIG-12

IN regards to the supposed obviousness of using only one probe when the cited documents use multiple probes, this is not only a matter of number but also of the operation of the plant. Such an operation with only one probe is not disclosed and this means that if the cited system were to be used with only one probe they would be inoperative.

For example, SCHNEIDER, clearly teaches that multiple gas wells 8.1, 8.2, 8.3 are made over the entire height of the refuse pile (Column 4, lines 37-50).

Those gas wells are larger than the gas withdrawal lines and they are shown as being not in contact with the refuse in the wells. As a consequence, there is no risk of sucking in the withdrawal line any refuse and thus the strainer has no use.

KATZ inserts drawtubes in the material of the landfill volume. These drawtubes have a number of apertures with pouches disposed at some distance from the rounded end of draw tubes. Moreover, the gas is directly sucked in those drawtubes. This is clear in Figure 6 of KATZ (which has been annotated by the Office) reproduced below.



Even if by chance one considers using the drawtubes of KATZ in the SCHNEIDER apparatus (wells are made in SCHNEIDER, not in KATZ) the resulting object will be different from the one claimed in the current application: the drawtubes of KATZ will be inserted in the wells of SCHNEIDER. Above all, the result will not be a tapered air intake strainer at one end of a hollow sampling rod in which a plastic pipe is passing through.

It is clear that in KATZ the apertures are not at the end of the drawtubes but at a distance from it. It is also clear that there is no pipe in KATZ's drawtube.

There is no teaching in the cited documents for departing from KATZ's teaching and adding a pipe and suppressing the apertures and replacing them with a strainer at another place (end of the tube).

It should be remembered that the sampling rods of the current invention are removable and reusable. This means that

they are inserted in the dump multiple times and that their ends are each time stressed and could be damaged. In KATZ, the drawtubes appear to be permanently left into their final position. If by chance they are reused and damaged, the whole tube will have to be changed and disposed of. In the current invention, this is not the case as only the tapered air intake strainer need to be changed in case the sampling apparatus is damaged during insertion in the dump.

Returning to the BILLINGS document, it refers to an injection system for treating water. This is a completely different field from the sampling of gas. Moreover, in this document the only flexible tube 130 (Figures 11, 12, 13, 14, 15) is an injection tube 130 which is outside the pipe 24 and in a well 18 made in the ground. Figure 11 of BILLINGS is reproduced below.

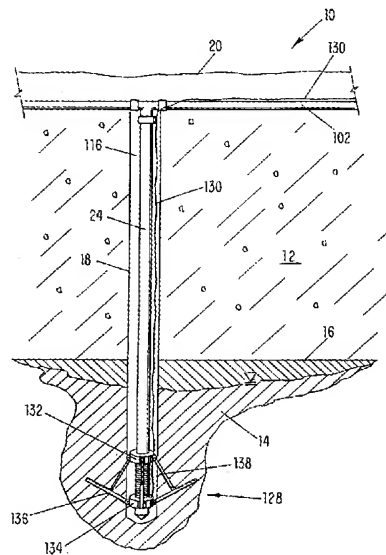


FIG-11

Such a structure cannot be implemented in a gas sampling system. However if by chance the flexible tube was used it would be in a manner totally different from the one of the current invention: outside of a pipe.

Other modifications of SCHNEIDER's teaching based on the secondary references would be outside the clear teaching of those documents and would be the result of *a posteriori* reasoning knowing the details of the claims of the present invention.

One of ordinary skill and creativity would thus fail to produce a claimed embodiment of the present invention from a knowledge of the applied art references. A *prima facie* case of unpatentability has thus not been made.

These rejections are believed to be overcome, and withdrawal thereof is respectfully requested.

Request for Rejoinder

Process claim 13 is clearly drawn to the same invention as the apparatus claims of record. That is, new claim 13 draws support from the apparatus claims as well as from paragraphs 0036 and 0038 of corresponding U.S. Publication 2004/0259233. Due to the nexus between the apparatus claims and the process claim, there is no undue burden placed upon the Examiner to consider all the claims of the present invention.

Rejoinder is accordingly respectfully requested.

Conclusion

As no issues remain, the Examiner is accordingly respectfully requested to place the application in condition for allowance and to issue a Notice of Allowability.

The Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 25-0120 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17.

Respectfully submitted,

YOUNG & THOMPSON

/Robert E. Goozner/
Robert E. Goozner, Reg. No. 42,593
209 Madison Street, Suite 500
Alexandria, VA 22314
Telephone (703) 521-2297
Telefax (703) 685-0573
(703) 979-4709

REG/jr